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NOAA IMPLEMENTS HARMFUL ALGAL BLOOM FORECAST SYSTEM FOR TEXAS GULF COAST

A new harmful algal bloom forecast system developed by NOAA is now in place along the Gulf coast of Texas. The announcement of the ecological forecast program was made at today's meeting of the Gulf of Mexico Alliance, a federal-state partnership to address critical coastal issues facing the Gulf states. The system generates forecasts weekly to determine the current and future location and intensity of blooms, and the likely impacts to the environment.

“Because these blooms contain neurotoxins, they threaten human and ecosystem health, and can substantially impact coastal economies,” said Margaret A. Davidson, director of NOAA's Coastal Services Center and the NOAA delegate to the alliance. “Using a combination of satellite and in place ocean and coastal observational data for ecological forecast systems shows the value and need for the development of an integrated ocean observing system (IOOS), one that can assist in addressing the threats to our health and our economy caused by harmful algal blooms.”

Harmful algal blooms occur in the waters of almost every U.S. coastal state. Direct economic impacts of blooms in the United States have been estimated to average $75 million annually, including impacts on public health costs, commercial fishing closures, recreation and tourism losses, and in management and monitoring costs.

NOAA’s National Centers for Coastal Ocean Science (NCCOS) operates the system geared to predict harmful algal blooms (HABs, or “red tides”) caused by the highly toxic algae *Karenia brevis.* The blooms are known to cause fish kills, shellfish toxicity, water discoloration, and respiratory distress in humans. Texas coastal community managers will be notified of bloom status through a weekly e-mail bulletin NOAA will send to state natural resource managers.

Advance warning of blooms increases the ability to mitigate the impacts of these events. The harmful algal bloom forecasting system works with observations made by Texas state agencies with NOAA imagery and models to supply improved information on the location, extent, and potential for development or movement of the blooms in the Gulf of Mexico.

Since 1999, under a research program designed to develop informational tools to assist coastal managers, NOAA has been working with agencies managing harmful algal bloom monitoring and impacts in the Gulf of Mexico. NOAA has been providing advisory bulletins to identify blooms before they are reported at the shore, and has provided assessments of the extent of the blooms allowing for more effective sampling and monitoring.

The bulletins are developed by integrating data from various ocean-observing systems, including imagery from commercial and government satellites; meteorological data from NOAA observing stations; and field data collected by state and university monitoring programs. This information is then synthesized and interpreted by an expert analyst, in order to determine the current and future location and intensity of *Karenia brevis* blooms, as well as their potential impacts on humans, marine mammals, and fish.

Conditions are posted to the forecasting system Web page once a week during non-bloom periods and twice a week during bloom periods. When NOAA detects a possible bloom, Texas state managers are notified to conduct field sampling. If state managers confirm the bloom, then the public is informed through the forecasting Web page, the news media, and other appropriate outlets.

The Texas Parks and Wildlife Department, NOAA, and scientists from the Coastal Services Center met during the summer with local resource managers, tourism groups, and Chambers of Commerce in Galveston, Corpus Christi and South Padre Island to provide information on the development of the Texas forecast system.

The system created for Texas was based on the detection system that NOAA designed for Florida's Gulf coast in 2004. While the organisms are the same, Florida experiences multiple blooms annually. Texas has only experienced two bloom events since 2000 but previously bloom events occurred no more than once a decade.

In 2007 the National Oceanic and Atmospheric Administration, an agency of the U.S. Commerce Department, celebrates 200 years of science and service to the nation. From the establishment of the Survey of the Coast in 1807 by Thomas Jefferson to the formation of the Weather Bureau and the Bureau of Commercial Fisheries in the 1870s, much of America's scientific heritage is rooted in NOAA.

NOAA is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and information service delivery for transportation, and by providing environmental stewardship of our nation's coastal and marine resources. Through the emerging Global Earth Observation System of Systems (GEOSS), NOAA is working with its federal partners, more than 60 countries and the European Commission to develop a global monitoring network that is as integrated as the planet it observes, predicts and protects.

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On the Web:
NOAA: http://www.noaa.gov/
NOAA National Ocean Service: http://www.oceanservice.noaa.gov/
Harmful Algal Bloom Forecasts: http://www.csc.noaa.gov/crs/habf/
NOAA National Centers for Coastal Ocean Science: http://coastalscience.noaa.gov/
NOAA Coastal Services Center: http://csc.noaa.gov/
Texas HABs: http://www.tpwd.state.tx.us/landwater/water/environconcerns/hab/